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TANGANYIKA TERRITORY

DEPARTMENT OF AGRICULTURE

ANNUAL REPORT, 1943

GENERAL

Climatically 1943 was one of the worst years on record over most of the Territory. Only the Southern Province enjoyed satisfactory rains. In the Lake Province a very long dry spell in December 1942 and January 1943, and another in March, threatened a disaster which was only partially averted by an unusual prolongation of the rains into May. The Central Province received only eleven inches of rain distributed over a period of ten weeks. In the rest of the Territory the short rains of 1942-43 were late and poor; the main rains started well but were interrupted by severe periods of drought, and in some areas ceased a month earlier than usual. These conditions were reflected in widespread food shortages, amounting in parts of the Lake Province and the whole of the Central Province to famine. The position was aggravated by the almost complete failure of the 1943-44 short rains. In general therefore, the high hopes entertained for the production of a useful contribution of food supplies to the Middle East and the great efforts made to achieve this result both in native and settled areas met with disappointment and frustration due to these exceptional weather conditions; and the year closed with further crop failures in prospect.

The local Production Committees at Arusha, Iringa and Moshi have again given most valuable assistance and advice to Government in the organization of production by non-natives, the rationalization of agricultural machinery and the allocation of advances for crop production. Planters have made increasing use of these loans for the purchase of machinery and the cultivation of wheat, maize, beans and pyrethrum. Advances approved in 1943 amounted to over £30,000.

Almost every type of farm implement, from the humble hoe to heavy tractors and sisal locomotives, was in short supply, and this was a limiting factor in the expansion of production of certain crops. Every effort is being made, through the Machinery Control Section of the East African War Supplies Board to obtain adequate supplies in 1944.

The shortage of labour, which was already pronounced in 1942, reached a stage at which it became necessary for Government to introduce conscription with the sanction of the Secretary of State in order to make good the labour requirements of industries producing war priority crops, such as sisal, and to prohibit new plantings of sisal, coffee, papain and tobacco without the written consent of the Director of Agricultural Production.

The system, inaugurated last year, whereby the price to the producer of certain crops was guaranteed, remained in force with some adaptations. But owing to the adverse season demand was always greater than supply, and price control was concerned rather to prevent a rocketing of prices than to bolster them up.

During the course of the year there was a further decentralization of the work of the department. The old "Circles", which in three cases were comprised of two provinces, were abolished. One experienced officer was posted to each province and made responsible to headquarters for the department's work in it. This has facilitated closer co-operation with local officers of the Administration and of the other technical departments. By the end of the year all but six of the department's field staff who had been serving with the forces had returned to the department, but a number of officers remained on secondment to other colonies and to the Sisal Control and Produce Control organizations. It is with great regret that the death has to be recorded of Mr. L. F. Higgens, Senior Agricultural Assistant, which occurred at Bukoba on the 2nd August 1943.

NOTES ON THE CHIEF EXPORT CROPS

A comparative table showing amounts and values of the chief crops exported in each of the last four years is given in Annexure I of this report.

Sisal.—Production for the year amounted to 102,436 tons, an increase of some 3,300 tons on the previous year. The amount exported was 96,598 tons valued at £2,118,127. This was a very satisfactory achievement considering the difficulties which had to be overcome with regard to labour, food supplies and machinery.

The war demand for sisal increased to such an extent that at the end of September it was listed as a No. 1 priority. In order to attain the greatest possible production an advisory section of the Sisal Control was set up to assist estates to reach maximum production in the minimum time. The advisory section co-operated closely with the Technical Committee of the Tanganyika Sisal Growers' Association and with the Economic Control Board in an effort to ameliorate the machinery supply position.

Representatives of the British and American Governments paid a welcome visit to Tanganyika to review the situation and the supply needs of the industry.

The improvement in the preparation, grading and packing of fibre, brought about last year by the Inspector staff of the Sisal Control, was fully maintained.

Coffee.—The dry conditions which prevailed seriously affected coffee yields. The total exports amounted to only 10,898 tons valued at £553,741 compared with 14,828 tons valued at £656,695 in 1942. Both mild and hard coffees were affected. The Bukoba crop was 6,000 tons, the smallest for many years. The Northern Province crop amounted to approximately 3,900 tons of which roughly half was produced by natives.

The Southern Highlands crop declined to 310 tons. Both there and in Bugufi *antestia* damage was severe.

The standard of husbandry in Bukoba still leaves much to be desired but some improvement can be recorded particularly in regard to the application of mulch.

The system of Government purchase and control of hard coffees continued to function smoothly. Bulk orders by the Ministry of Supply and the military amounting to some 3,580 tons of robusta and 540 tons of plantation coffee were met. The prices received by the control were £46 and £51 per ton f.o.b. respectively and the native producer was paid on this basis a substantially greater price than he was accustomed to obtain pre-war. The remainder of the crop was sold at auction in Mombasa. The control operated at a very considerable profit and it was expected that £70,000 will accrue to the Tanganyika Agricultural Development Fund as a result of the year's trading. In July Government appointed the Tanganyika Coffee Growers' Association to be its agent for the purchase of the mild coffee crop thus bringing this coffee under one control for the purpose of simplifying arrangements for bulk disposal to the Ministry of Supply and to the United Kingdom Commercial Corporation.

Cotton.—Cotton exports were equivalent to 39,211 bales of 400 pounds valued at £624,079; actual production was 38,309 bales as against an average of 59,531 bales in the five preceding years. The heavy decline was almost entirely attributable to a reduced acreage consequent upon extremely unfavourable planting conditions coupled with the diversion of man power to the production of food crops and other urgent war priorities. The latter part of the growing season was not unfavourable generally and yields were very fair in most areas. The distribution of the crop by provinces in bales was approximately as follows: Lake 24,800, Eastern 10,550, Tanga 1,050, Southern 1,000, Northern 870. Cotton seed was exported to the extent of 8,503 tons valued at £21,526.

Reference was made in the 1942 Annual Report to the undertaking given by His Majesty's Government to buy the whole of the East African cotton crop for a number of years at a fixed price. It so happened that in 1943 the demand for cotton was in excess of supply and the Bombay price was considerably greater than the fixed price guaranteed by the Home Government, which was consequently not called upon to implement its guarantee. The Ministry of Supply required, however, 2,000 tons of Tanganyika lint, and this quantity was made available to the Ministry at the guaranteed price. The remainder of the crop was disposed of to Bombay at prices considerably in excess of that paid by the Ministry of Supply. This situation necessitated sweeping changes in the marketing system. The price of seed cotton to the producer was fixed at a flat rate throughout the season, the rate being based on the guaranteed price of lint paid by the Ministry of Supply. Under the authority of a Defence Regulation the lint, as soon as it had been ginned, became the property of Government who disposed of it to members of Exporters' Groups. These groups were formed for each of the two main producing areas, their members being persons or firms who had been regular exporters in the past. The profit accruing to Government owing to the wide margin between the price to the producer and the export value on that portion of the crop sold to Bombay is expected to reach £170,000 for crediting to the Tanganyika Agricultural Development Fund. The producer received the very fair price of 12 cents per pound of first grade seed cotton in the Lake Province, and 28 cents per kilo less certain allowances for transport in the other cotton growing areas.

Mr. Parnell of the Empire Cotton Growing Corporation again visited the major cotton growing areas of Tanganyika Territory and has given most valuable advice on the lines of future research and development.

Groundnuts.—A dry year is always a bad year for groundnuts in this country and 1943 was no exception. Of the small crop reaped a big proportion was retained by growers for food, so that in spite of the satisfactory price of 10 cents per pound at railhead markets exports fell to the low level of 1,752 tons valued at £27,956, compared with an average of over 12,000 tons per year during the previous three years.

Sesame.—Exports at 3,180 tons valued at £45,236 were only slightly lower than in 1942. Actual production was well above normal. Overseas and coastwise exports from the Southern Province reached a figure of 5,162 tons, only a few tons less than the record.

Copra.—Exports of copra declined from 3,700 tons in 1942 to 2,816 tons in 1943, and the export of oil was reduced from 1,625 tons to 815 tons. The total production of copra was in the neighbourhood of 10,100 tons, distributed roughly as follows: Eastern Province 6,100 tons, Tanga Province 3,300 tons and Southern Province 700 tons. The reduction in exports was due to increased internal consumption of edible oils and soap.

Grains, etc.—The weather frustrated all efforts to increase the exportable surplus of grains. Although some 920 tons of maize and millets were exported, the Territory was, on balance, a net importer of these and other grains. The Southern Province made a notable contribution by producing a surplus of 6,014 tons of grain, 4,144 tons of cassava and 563 tons of pulses.

The exports of rice, at 4,673 tons valued at £66,182, were little more than one-quarter of the export in each of the two previous years. Drought made it impossible to plant the usual acreage; home consumption by producers increased, and a part of the crop was used as famine relief food.

The Northern Province Wheat Scheme received the bulk of its long awaited machinery in the middle of the year and was enabled to put its fifty-six tractors and ploughing units into action. By the end of the year 17,500 acres had been prepared towards an expected total of 23,500 acres for planting in the rains of 1944. The small area planted in 1943 yielded an average of $3\frac{3}{4}$ bags per acre over 534 acres with unusually low rainfall. The Northern Province wheat crop was a good one and produced 4,200 tons.

The cultivation of chickpea (*Cicer arietinum*), an important item in the diet of many Asians, was greatly extended and over 1,000 tons of it were marketed in the Lake Province.

An organization has been set up which aims at replacing a part of the ordinary mixed bean crop in the Uha area by white haricots.

Tea.—Exports at 503 tons, valued at £69,560, were the highest yet attained. But production, 1,288,554 pounds of made tea, was less than the previous year. The very dry conditions must be blamed for this setback to the steady annual increase expected. About three-quarters of the crop was produced in the Southern Highlands Province. The Territory has received an allocation of 1,490 acres for new planting of tea and arrangements have been made to issue

permits for planting to a number of new planters and to others in possession of tea acreages considered insufficient to give an economic return.

Sugar.—Exports declined sharply to 1,813 tons, valued at £34,870, owing to the retention in Tanganyika of a much larger proportion than usual of the output which amounted to 6,631 tons.

Tobacco.—Sales of fire-cured leaf in Songea reached the very satisfactory total of 515 tons, of which 467 tons were available for sale after re-grading and conditioning. This total was comprised of : Grade I 192 tons, Grade II 146 tons, Grade III 99 tons and Grade IV 30 tons.

The non-native production of flue-cured tobacco in Iringa increased by over 25 per cent to 1,132,731 pounds of which about one-half was graded at the central factory. Trash and moisture losses at the grading shed amounted to less than 20 per cent of the leaf handled as against over 50 per cent in the previous season.

The total amount of unmanufactured tobacco exported was 2,149,999 pounds valued at £120,228.

Pyrethrum.—Three hundred and six tons were exported and valued at £36,292. The season was not a good one ; drought reduced flushing and there was a considerable amount of thrips damage. A rapid expansion of acreage has taken place, a great deal of it with the assistance of Government loans and chiefly in the Uwemba area in the Southern Highlands. It is expected that output will more than double itself within two years.

Other Crops.—The production of papain in the Northern Province rose from 21 tons to 39 tons valued at £47,369, but prospects are less bright now owing to the interruption in production caused by an outbreak of sleeping sickness in the Mbulu District. The marketing of the Muhesa orange crop has been placed in the hands of a reputable firm who have been given a sole buying agency, and it is hoped that this will lead to an improvement in both the quantity and quality of fruit ; over 3,000 tons were railed in 1943, of which about three-quarters went to the East African War Supplies Board. Owing to the difficulty of obtaining overseas supplies of onion seed, the department has initiated a scheme for onion seed production in the Mbulu District and has begun the purchase of selected bulbs from native growers for storage and planting out in 1944. The Northern Province exported 2,428 tons of onions, two-thirds of the crop going to Kenya. The possibility of producing seed of other vegetables has been under investigation at the Coffee Research Station. The export of cashew nuts practically ceased owing to their low shipping priority rating ; some 600 to 800 tons remain unshipped in the Southern Province alone. Kapok exports amounted to 282 tons. About 600 tons of rubber were produced and now that the majority of derelict estates have been reclaimed a considerable increase may be expected next year.

Beeswax.—The exports of wax at 586 tons valued at £102,603 are not a true indication of the season which was the best on record. The Western and Central provinces greatly increased their output. The total production is estimated at 980 tons, distributed by provinces roughly as follows : Western 460, Southern 150, Central 335 and Eastern 35 tons. In addition, 867 tons of honey, valued at £32,000, were exported, mainly for the military in Kenya

and the Middle East. The total value of wax and honey produced in 1943 was in the neighbourhood of £200,000.

Gum.—Exports of gum arabic and gum copal fell to 390 tons as a result of the difficulty of obtaining shipping and import licences to India. There was a carry-over of perhaps 200 to 300 tons unshipped at the end of the year.

Vermin, Pests and Diseases.—Incipient activity on the part of the Red Locust was dealt with in the Rukwa outbreak centre by officers of the International Control. The Desert Locust reappeared after an absence of twelve years, entering the Territory from the north in February and leaving again before reaching maturity. A second influx of fliers, this time mature, occurred in November. Egg-lying took place but the hoppers were dealt with successfully. A further incursion from the north is expected in the near future.

Antestia damage to coffee was severe in Mbosi, Rungwe, and Bugufi. Coffee borers continued to take heavy toll of arabica coffee in Bukoba and the Southern Highlands. The major cotton pests were less destructive than usual in the Lake Province. The nature and effects of the pest complex in Eastern Province cotton became a matter for very close study. There was a serious increase in the infestation of sugar cane by the chafer grub, *Cochliotis melolonthoides*. Thrips caused some damage to pyrethrum. The Elegant Grasshoper, *Zonocerus elegans*, which strips the bark of young cassava, was very troublesome in many areas.

Surveys were begun to obtain more knowledge of the Spotted Stalk Borer, *Proceras argyrolepida*, and of the insect pests of wheat. Grain storage problems were investigated.

Hemileia disease of coffee was only mild. Yellow rust of wheat (*Puccinia glumarum*) was commoner than usual and did damage in the Northern and Tanga provinces. Late blight (*Phytophthora infestans*) of potatoes spread to the Usambara and Uluguru mountains and was very destructive in many areas; so far the Southern Highlands and Bukoba appear to be free from this disease. The *Sclerotinia* disease, the appearance of which was recorded last year, had a wider distribution and was found on a variety of crops and flowering plants. *Ascochyta rabiei* blight caused severe loss in chickpea fields of the Lake Province; this is the first time it has been recorded in Tanganyika. A considerable number of other new records were made of diseases of a wide range of fodders, vegetables and ornamentals, none of them serious as yet.

Vertebrate vermin remain a cause of heavy loss, particularly in the Eastern and Southern provinces. In the former over 1,500 pachyderms were killed by the Game Department, and in the latter over 1,300 baboons, pigs, monkeys and porcupines were destroyed by native staff working under the Provincial Administration, but much more extensive control measures are required in these and other areas.

SOIL CONSERVATION

The protection of land in the Northern Province by means of contour banks was steadily continued. On Kilimanjaro alone upwards of 60,000 acres of native fields have now been dealt with. In the Central Province a further 3,800 acres were embanked, and ridge cultivation was introduced for the first time on a large scale. The planting of contour hedges was extended in several areas but damage by drought and live stock reduced the effectiveness of this

measure in both the Tanga and Lake provinces. Measures taken to reduce the pressure on land included the control of native settlement in newly opened areas, provision of additional tank dams by communal effort, demarcation of village forest reserves and communal planting of wood lots. The practice of reserving and rotating grazing lands was extended; reclamation of grazing from scrub was initiated in one or two areas. The sales of Rights of Occupancy to non-natives are now in certain cases made subject to the occupier complying with instructions given him regarding measures to be taken to prevent erosion.

EXPERIMENTAL WORK

The secondment of the Senior Agricultural Officer (Sisal) as Advisory Officer to the Sisal Control organization did not interrupt the work of the Sisal Experiment Station at Mlingano. A number of trials have reached the end of their first cycle and valuable information, which it is hoped to publish shortly, has been obtained. The Coffee Research and Experiment Station continued to work on a programme somewhat restricted by lack of staff, but it is gratifying to be able to record that not only were the current experiments maintained but seven acres of rooted coffee cuttings were planted in clonal selection trials. These cuttings include the progeny of the best of many hundreds of trees which have been individually recorded for yield and quality for several years.

The work of the department's experiment stations at Ukiriguru, Lubaga, Nyamahona, Tumbi, Mwanhala and Morogoro was continued. The cotton work at Kingolwira has been almost entirely transferred to a more suitable site at Ilonga, Kilosa, where it is hoped to establish a full-scale station in the near future. The central stations in the Lake and Eastern provinces were supplemented by a number of small satellite experiment plots scattered over the area served by each station. The investigations were mainly concerned with fertility problems, the improvement of cotton strains and native food crops including rice. We again owe a great debt to the Empire Cotton Growing Corporation for the loan of four of its officers under whose supervision the major part of the work was carried out. Experimental work at Iheme has been closed down, and the farm has been turned over to the production of bacon pigs for the Iringa factory.

It is customary to conclude a report of this kind with a reference to the work of the staff. This I am particularly anxious to acknowledge in the present report. Much extra work has been thrown upon many departmental officers due to famine and food shortages and the need to provide fresh seed supplies where crops had failed, and these additional burdens have been shouldered as usual with energy and a determination to restore production as soon as possible with a view to our continued support of the war effort.

Dar es Salaam,
23rd March 1944

C. E. J. Biggs,
Acting Director of Agriculture

Annexure I

DETAILS OF THE CHIEF EXPORT CROPS FOR THE PAST FOUR YEARS

PRODUCT	Year	Maximum output for export prior to 1943	1940		1941		1942			1943		
			Amount	Value per ton f.o.b.	Amount	Value per ton f.o.b.	Amount	Total value	Value per ton f.o.b.	Amount	Total value	Value per ton f.o.b.
		Tons	Tons	£ s.	Tons	£ s.	Tons	£	£ s.	Tons	£	£ s.
Sisal	1942	136,237	78,528	19 2	75,195	19 14	136,237	2,631,367	19 6¼	96,598	2,118,127	21 18½
Sisal (manufactured)	1936	2,325	5	30 0	15	39 4	26	1,216	46 15½	30	1,670	55 13½
Cotton lint ...	1941	13,106	10,624	56 17½	13,106	60 2	8,009	640,843	80 0¼	7,002	624,079	89 2½
Coffee	1935	18,588	15,634	28 4	13,667	32 15½	14,828	656,695	44 3½	10,898	553,741	50 16¼
Groundnuts ...	1936	22,786	8,185	11 17¼	11,312	13 14¼	13,193	214,596	16 5½	1,752	27,956	15 19
Hides and Skins ...	1939	4,286	3,946	68 19¾	3,512	60 1¾	2,993	203,373	67 19	*2,339	163,222	69 15½
Copra	1928	9,318	3,095	8 4¾	3,620	9 10¼	3,700	44,667	12 0½	2,816	44,199	15 14
Sesame	1938	5,241	2,052	10 16¾	3,018	11 0½	3,563	45,935	12 18	3,180	45,236	14 4½
Rice	1941	17,965	15,204	10 5½	17,965	11 18	17,948	235,916	13 3	4,673	66,182	14 3¼
Millet and Mtama ...	1928	7,732	4,510	4 15¼	3,280	5 1½	3,348	18,465	5 1¾	913	5,749	6 6
Maize	1934	2,901	2,831	4 0½	940	3 18	713	3,143	4 8	9	78	8 13¼
Beeswax	1937	738	468	138 1½	712	162 10	348	57,640	165 12¾	586	102,603	175 1¾
Tea	1942	483	316	126 11¼	340	135 13½	483	66,536	137 16	†503	69,560	138 5¾
Sugar	1941	5,454	4,876	9 18½	5,454	14 3	4,380	75,521	17 4¾	1,813	34,870	19 4¾
Gums, Copal and Arabic	1941	1,405	965	26 6¼	1,405	33 5½	904	40,107	44 7¼	390	21,916	56 4
Ghee	1942	1,385	1,213	66 19½	1,125	73 4	1,385	112,804	81 9	750	67,431	89 18
Wheat	1941	2,475	1,450	9 7¼	2,475	10 8¼	2,166	23,788	11 0	1,887	25,722	13 12¾
		252,425	153,902	22 5½	157,141	24 1	214,224	5,072,612	23 13½	136,139	3,972,341	29 3½

*Includes 2,023 tons of hides and 474,640 skins weighing at approximately 1,500 per ton. †New highest export tonnage.

Pyrethrum: Export 1943—306 tons valued at £36,292 f.o.b. or average of £118 per ton f.o.b.
Coconut oil: Export 1942—1,625 tons valued at £54,503 f.o.b. or average of £33 11s. per ton f.o.b.
Export 1943—815 tons valued at £33,185 f.o.b. or average of £40 14¼s. per ton f.o.b.